APPENDIX M
GERSTLE RIVER EXPANSION AREA
MARCH 1, 2000 RAB MEETING

GERSTLE RIVER EXPANSION AREA
RESTORATION ADVISORY BOARD MEETING SUMMARY
RAB Meeting – March 1st, 2000

The March 1, 2000 Gerstle River Expansion Area Restoration Advisory Board (RAB) meeting was held at the Delta Junction Community Center, Delta Junction, Alaska at 6:00 p.m. The RAB meeting was scheduled based on feedback from the previous RAB meeting held on November 10, 1999.

The March 1, 2000 meeting was advertised in the Delta Wind, a newspaper published in Delta Junction, Alaska, in the February 24, 2000 issue. Notice of the meeting was also broadcast as a public service announcement on the Armed Forces Radio Network at Fort Greely, Alaska from February 27 through March 1, 2000. Copies of these advertisements are included in Exhibit A.

Andrea Elconin, with the U.S. Corps of Engineers Alaska District (ACOE), presided over the meeting. Representatives were in attendance from the Delta Junction community, State of Alaska Departments of Environmental Conservation and Natural Resources, the Bureau of Land Management, the ACOE, and Clearwater Environmental, Inc. (contractor to the ACOE). A copy of the sign-in sheet for the meeting is included in Exhibit B.

Agenda items for the November 10 meeting included the following:

- Approve agenda
- Approve November 11, 1999 meeting minutes
- Confirm new RAB members
- Technical assistance for public participation
- Jim Pastorick's review of ACOE work
- Review of 1999 drum removal results
- Plans for drum sites this year
- Plans for the registration areas
- Agency comments
- Date, time and proposed agenda items for next RAB meeting

Current RAB members are listed on the current RAB Member Contact List included in Exhibit C. Minutes from the March 1st, 2000 RAB meeting directly follow this summary.

Meeting Minutes
Gerstle River Expansion Area
Restoration Advisory Board Meeting
March 1, 2000, 6:00 p.m., Delta Junction Community Center, Delta Junction, Alaska

The meeting was called to order by Andrea Elconin, ACOE, at 6:13 p.m.

Introductions and sign-in:

RAB members present:	**Guests present:**
Andrea Elconin (ACOE)	Dave Westerman (ACOE)
Irene Mead (community member)	David Jandt (BLM/AK Fire Service)
Tammy Webb (community member)	Enrique Fernandez (Clearwater Env. Inc.)
Tim Webb (community Co-Chair)	Jim Pastorick (Geophex UXO/ADEC)
	John Halverson (ADEC)
	P. R. Miller (community member)
	Robert Layne (ADNR)
	Sam Mills (ACOE/FRO)

AGENDA ITEMS (SEE ATTACHED AGENDA)

1. **Approve Agenda** – P. R.Miller introduced the subject previously presented in past meetings of building fences around the test sites by Ft. Greely. He said that Ft. Greely is preparing for a large personnel layoff very soon, and it would be best to do it before the layoffs start. A.Elconin made an addition to the meeting agenda to discuss the building of fences by Ft. Greely around the test sites.

2. **Approve meetings minutes from last two RAB meetings** – The minutes for the August 11th, and November 10th, 1999 RAB Meetings were approved.

3. **Confirm new RAB members** – No new RAB members were introduced.

4. **Technical Assistance for Public Participation** – A. Elconin introduced to the RAB the Technical Assistance-ship Program (TAP). This government program provides $25,000 a year, or $100,000 over the entire duration of the RAB, to assist the public in understanding the technical aspects discussed in the RAB meetings. The funds could be used to hire someone like a historian to go over agency records or anything else that the RAB needs in the way of assistance. The RAB group would have to come up with a scope of work and go through government procurement. R. Layne asked if the individual hired by the RAB would be able to review classified documents. A.Elconin, answered yes. A.Elconin added that the review of classified documents is not only available to government personnel; she said that there are private contractors with security clearances that can review classified documents. A.Elconin further explained that the individual contracted by the RAB would be able to review documents and explain them to the RAB, review remedial technology, interpret health and environmental effects, and train the RAB group in particular technical aspects among others. However, this individual would not be able to generate new data, perform litigation or political activities.

5. **Jim Pastorick's Review of ACOE Work** – J.Pastorick with Geophex UXO has been contracted by the ADEC to review the ACOE's work. J.Pastorick said that he has reviewed all documents provided by the government. In addition, he has visited the test sites. In summary, he has developed five conclusions or recommendations. J.Pastorick added that these are not final and could change since they are still under review.

   1st Conclusion- All 155 mm chemical warfare munitions (CWM) fired in Site 9 and 10 are all accounted for. There was a discrepancy about two unknown height detonations in both Site 9 and 10, but it was cleared by the interviews of the Test Site Officers. Pastorick expressed concern about a notation missing in the Test Officers Log from missing data as to cloud height. Pastorick would like to see that cleared. Regarding the Dewpoint test in Site 9, he would like to see more data and more research. Pastorick explained that during the Dewpoint test two types of tests were performed: a) one static, where rounds were placed on the ground or hung from trees and detonated on site, and b) another dynamic, where projectiles filled with a simulant were shot into the ground from a 200 ft tower. R.Layne asked if the type of simulant used was known. D.Westerman replied that it was some type of tierra dye. Pastorick added that some rockets were filled with glycol. He reiterated that there is very little information about the Dewpoint test in Site 9 and that it requires more research.

   2nd Conclusion- The four small craters, identified as disposal areas in the 1998 Verification Sampling Operation in Site 10, were not thoroughly investigated due to time availability related to weather deterioration. Pastorick recommended returning to the sites and cleaning the small craters completely.

   3rd Conclusion- The registration areas, Sites 9E and 10N, require a more detailed investigation of 155 mm projectiles.

   4th Conclusion- Sites 9E and 10N could have been used for disposal and this should be investigated.

   5th Conclusion- For Site 9A, there was a reported dud fire near the intended target area. Because of the proximity of this site to the GREA, there is a slight possibility that it could have landed in the GREA area. That portion of terrain requires more investigation or more assessment as to whether an investigation is needed.

   R.Layne asked Pastorick about his opinion on the presence of aluminum fragments in the registration areas. Pastorick replied that they could proceed from the disposal of munitions. He added that the presence of any unusual findings should be attributed to disposal activities. D.Westerman asked Pastorick if the fuses from the 155 mm rounds were made of aluminum, implying that the aluminum could also proceed from the fuses of the rounds used for the registration process. Pastorick answered that he did not know if the burster tubes were made of aluminum. He said that they look like steel, but that he could find out. D.Westerman asked Pastorick about what could be done different, regarding a field investigation process; if the sites were investigated for

disposal. Pastorick answered that all disposal craters should be investigated separately. D.Westerman asked E.Fernandez if during the 1998 investigation the surroundings of the craters found in Site 10 were investigated. E.Fernandez answered that the inside of the craters were investigated, but not 100% of the surrounding area due to time limitations and scope of work. Part of the surrounding area to the craters was located outside the investigation limits.

Pastorick reiterated that the Dewpoint test in Site 9 needed more research. D.Westerman replied that unfortunately there were no people available to interview. He believes it was an Air Force test. Westerman has some more information on the Dewpoint test that Pastorick has not had a chance to review. He would like Pastorick to review it.

In support of Pastorick's conclusions, R.Layne said that he had reviewed the same documents and also has arrived at the same conclusions. A.Elconin asked J.Havelson's opinion of Pastorick's review of the ACOE's work. He replied that in general it looks good. R.Layne commented about the work performed with magnetometers. In Layne's opinion, the magnetometers do not seem to operate properly. Pastorick replied that a lot of the learning done using these type instruments has been done here in Alaska. D.Westerman added that in 1995, the EM-61 magnetometer was only one year old and that many changes have been made since. He added that now the individual analyzing the data is required to visit the site and become familiar with it. Pastorick said that there is a great amount of tools available to perform geophysical investigations; each one is good for the appropriate job. Pastorick would like to see some thought put into what instrument to use in future investigations. A.Elconin asked Pastorick if he was going to give any type of recommendations. Pastoricks replied no, and said that was Huntsville's determination.

6. **Fences around the test sites** – P.R.Miller introduced again the subject of building fences around some of the test site areas in the GREA to prevent the general public from entering. R.Layne commented that fences are a problem because of wildlife getting caught in them. Pastorick said that there are other types of institutional controls that could serve the purpose such as signs that are not restrictive to wildlife. A.Elconin said that Doug Johnson, who oversees the environmental problems in Army land, advises that the army has no intentions of restricting access to the areas where the test were performed because there is no danger. I.Mead said that every hunting season there are articles in the newspaper about danger in those areas. R. Layne said that part of the problem is that there are conflicting ideas. Some people say it is clean and others say that it will never be clean. This should be addressed, R.Layne said. In an attempt to reduce the concern about the danger of the public walking over the test site areas, D.Westerman said that the munitions are safe in the ground because they are unmoved. He added that they become dangerous when you touch them or move them. Pastorick replied that frost heaving moves the munitions towards the surface, making it a dangerous situation for individual walking over the surface. A.Elconin said that she would try her best to bring the Army into the RAB meetings. D.Westerman said that the

best chance to get signs posted at the sites is Robert Jett, the Ft. Greely Safety officer. Westerman will try to contact him. T.Webb said that Robert Jeff did not sound too encouraged. The meeting took a five minute recess at 7:23 p.m.

7. **Review of 1999 Drum Removal Results** – D.Westerman said that at the drum mound site the contractor excavated down to 15 feet. There are 231 drums and 1900 cubic yards of soil that needs to undergo thermal remediation. Fortunately, the contaminant agent, fog oil, has very high viscosity and it does not propagate very much in the ground. The Borrow Pit #1 is completely cleared of metals, (marston matting, culverts, drums, etc.) and it has been excavated down to 15 feet. There was contaminated soil in one small area with a pH of 13. The high pH makes it hazardous material. The contaminant agent, Super Topical Bleach (STB), was used by the military to decontaminate equipment. Among the items found there were three drums of Topical Bleach, and 1 drum of Fog Oil.

   D.Westerman explained that ADEC regulations require that the top 15 feet of contaminated soil be removed as to allow future land use without presenting any health hazards to the public. However, there is still contaminated soil deeper than 15 feet. D.Westerman said that according to ADEC regulations the contaminated soil at that depth could be left on-site if it is proven that it will not pollute the ground water. He further explained that there are mathematical models that engineers use that give the concentration of the pollutant agent, the type of soil, and the depth to the groundwater, to determine whether or not the contamination will reach the water table. D.Westerman referred to this as contamination modeling. He added that this is one of the main activities that will take place this summer. D.Westerman said that existing soil boring logs near the sites present the water table at a depth of 453 feet deep. The contamination modeling is needed to establish whether enough soil has been removed or to see how much more needs to be removed. R.Layne inquired about the type of analysis being performed during the excavation. D.Westerman replied that halfway through the sampling effort, it was determined that the contaminating agent is mostly POL. Thus, sampling for heavy metals, and other types of sampling, was done less often. R.Layne said that we do not have a complete list of chemicals that were used, and what those chemical disassociate into. In his opinion this is required to know what to sample for. He also added that he cannot comment on the data because he has not seen it. D.Westerman summarized the year 2000 operations by saying that this summer they will do the ground modeling and hopefully backfill the open trenches with clean backfill material. R.Layne inquired about the Borrow Pit #3. A.Elconin said that nothing is planned at this time because the Borrow Pit #3 is a landfill, and landfills are to be left alone. R.Layne said that the military used that borrow pit for disposal, and it is likely there is something "bad". D.Westerman replied that a characterization was done in 1990 and there was nothing "bad" found.

8. **Plans for the Registration Areas** – A.Elconin said that Pastorick recommended more investigation in the registration areas. The plans are for Huntsville to come and perform the work this summer. R. Layne inquired about the scope of work. D.Westerman

replied that the Huntsville crews were going to first do a surface sweep, then they would remove the trees in Site 10N. Site 9E should not need the trees removed. Then they will create a grid system with 1m. x 1m. grids, and then investigate the area with an EM-61 or other magnetic equipment, analyze the data, and dig out anomalies. R.Layne expressed his concern about the surrounding areas, especially Site 9E because the area is not defined very well. D.Westerman replied that Huntsville will recommend what to do in that regard, and that it is too early to say. D.Westerman presented a document he had found on the Internet showing how the registration process is performed. Pastorick supported D.Westerman saying that determining the area to investigate should be Huntsville's work. D.Westerman commented that 9E has a rock layer about 18 inches deep. This should make the investigation much simpler since the ground penetration of rounds should be lower. R. Layne said that given the vegetation cover in Site 10N, the rock layer should be very close to the surface there too.

9. **Agency Comments** – J. Halverson said that he is looking forward to reviewing the work plans. A.Elconin said going back to the registration areas, that the goal is to have unrestricted access in the Gerstle Expansion Area. R. Layne said that until other things come to light all we can do is investigate what we know.

   D.Jandt said that the state of Alaska shows no change on their fire fighting policy of not entering the sites, because they are not sure what is there. A.Elconin questioned R.Layne about what it would require to take Site 9 and 10 out of the list. R. Layne answered that the registration areas, and the disposal craters in Site 10 had to be cleaned. Also it was indicated that the Dewpoint test in Site 9 needed to be resolved. D.Jandt continued taking about firefighting in the area. He said that an alternative for firefighting in those areas is clearing the areas, to delineate the site. T.Webb inquired about who would come out with the funds for such a task. D.Jandt answered that the state would have to approve it, and that the BLM would do it. T.Webb said that it would help define the sites, help the bison, and work as a fire breaker. D.Jandt said that he would pursue the matter, but that it would not materialize this summer because funding mechanisms in the BLM are very slow. D.Westerman said that the RAB meetings are available on the Internet at http://www.poa.usace.army.mil/fuds/gerstle/gerstlehome.html

10. **Date, Time, and proposed agenda items for next RAB Meeting-**
    Next meeting: June 7, 2000, at 6:00 pm

    Proposed agenda:
    1) DPW to address test site concerns
    2) Perimeter work around the test site
    3) Workplan, registration areas, and drum sites

8.46 pm meeting adjourned.

Gerstle River Expansion Area

Restoration Advisory Board (RAB) Meeting
March 1st, 2000, 6:00 p.m.
Community Center, Delta Junction, AK

Draft Meeting Agenda

1.) Approve Meeting Agenda

2.) Approve November 11, 1999 Meeting Minutes

3.) Confirm New RAB Members

4.) Technical Assistance for Public Participation

5.) Jim Pastorick's Review of ACOE Work

6.) Review of 1999 Drum Removal Results

7.) Plans for Drum Sites This Year

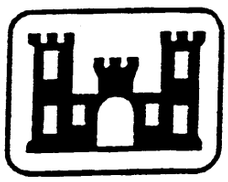
8.) Plans for the Registration Areas

9.) Agency comments

10.) Date, Time, and proposed agenda Items for next RAB Meeting

EXHIBIT A
MEETING ADVERTISEMENTS

GERSTLE RIVER EXPANSION AREA



RESTORATION ADVISORY BOARD MEETING

Date: Wednesday, March 1, 2000
Time: 6 pm
Place: Delta Junction Community Center

The U.S. Army Corps of Engineers (Corps) will be holding a Restoration Advisory Board (RAB) meeting for the Gerstle River Expansion Area. The meeting is open to all interested parties.

Topics to be discussed include the Alaska Department of Environmental Conservation (ADEC) review of the Corps' work, review of 1999 drum removal results, plans for drum sites this year, and plans for the registration areas.

For more information regarding this meeting, please contact:

Ms. Andrea Elconin
RAB Agency Co-Chair
Corps of Engineers, Alaska
(907) 753-5680

Mr. Rim Webb
RAB Community Co-Chair
Delta Junction, Alaska
(907) 895-1024

PUBLISH: 2/24

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EXHIBIT B
SIGN-IN SHEETS

GERSTLE RIVER EXPANSION AREA

RESTORATION ADVISORY BOARD (RAB) MEETING

MARCH 1, 2000

SIGN IN SHEET

The information on this RAB sign-in roster will be attached to the summary of the RAB meeting and will be available to members of the public who have expressed an interest in the RAB proceedings. It will also be on file with other records of this RAB and available upon request to other members of the public. Your initials below will constitute permission for release.

First name	Last Name	Company	Address	City	State	Zip Code	Phone	Initials
☐ Al	Edgren	ADNR-Division of Forestry	P.O. Box 1149	Delta Júnction	AK	99737-	(907) 895-4225	
☑ Andrea	Elconin	U.S. Army Corps of Engineers	P.O. Box 898	Anchorage	AK	99506-0898	(907) 753-5680	
☑ Audrey	Brown		P.O. Box 990	Delta Junction	AK	99737-	(907) 895-5297	
☑ Bill	Johnson	ILRA Advisory Board- City Council	HC10 Mile 294 Richardson Hwy	Fairbanks	AK	99701-	(907) 895-4039	
☐ Commander US Army Alaska		ATTN: APVR-RPW-ENV (Johnson)	600 Richardson, # 6505, Bldg. 724	Ft. Richardson	AK	99505-6505		
☐ Connie	Friend	Tanana Chiefs Conference	P.O. Box 129	Tok	AK	99780-	(907) 478-5182	

First name	Last Name	Company	Address	City	State	Zip Code	Phone	Initials
☐ Dave	Westerman	U.S. Army Corps of Engineers	P.O. Box 898	Anchorage	AK	99506-0898	(907) 753-2804	DW
☐ Gary	Luke	Healy Lake Traditional Council	P.O. Box 60300	Fairbanks	AK	99706-0300	(907) 876-5018	
☑ Irene	Mead		P.O. Box 186	Delta Junction	AK	99737-	(907) 895-4713	I. M.
☐ Jennifer	Roberts	ADEC	555 Cordova	Anchorage	AK	99501-	(907) 269-7553	
☑ Nathaniel	Good		P.O. Box 827	Delta Junction	AK	99737-	(907) 895-6282	
☑ P.R.	Miller		P.O. Box 384	Delta Junction	AK	99737-	(907) 895-4493	
☐ Rielle	Markey	ADEC	610 University Ave.	Fairbanks	AK	99709-	(907) 451-2117	
☐ Robert	Jeff	FT. Greely	P.O. Box 2000	Delta Junction	AK	99737-	(907) 873-1129	
☑ Robert	Layne	ADNR	3700 Airport Way	Fairbanks	AK	99708-	(907) 451-2735	
☐ Sam	Mills	USACE	P.O. Box 35066	Fort Wainwright	AK	99703-	(907) 353-6140	

First name	Last Name	Company	Address	City	State	Zip Code	Phone	Initials
[ ] Steve	DuBois	ADFG	P.O. Box 605	Delta Junction	AK	99737-		
[ ] Tammy	DeFries	BLM Alaska Fire Service	P.O. Box 35005	Ft. Wainwright	AK	99703-	(907) 356-5503	
[x] Tammy & Tim	Webb		HC 62 Box 5358	Delta Junction	AK	99737-	(907) 895-1024	TW
[ ] Tom	McGuire	BLM Alaska Fire Service	P.O. Box 35005	Ft. Wainwright	AK	99703-	(907) 456-0527	
[x] z DAVID	JANDT	BLM/ALASKA FIRE SERVICE	P.O. BOX 35005	FT WAINWRIGHT	AK	99703	(907) 356-5503	DRJ
[ ] z John	Halverson	ADEC	555 Cordova St.	Anch.	AK	99501	(907) 269-7545	JEH
[ ] z JIM	PASTORICK	GEOPHEX UXO ADEC	3180. Lee ST. Suite 304	ALEXANDRIA	VA	22314	(703) 518-5300	
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EXHIBIT C
RAB MEMBER CONTACT LIST

RAB Member Contacts

RAB MEMBER	CONTACT PHONE NUMBER
Andrea Elconin (ACOE)	(907) 753-5680
Irene Mead (community member)	(907) 895-4813
Tammy Webb (community member)	(907) 895-1024
Tim Webb (community Co-Chair)	(907) 895-1024

EXHIBIT D
HANDOUTS

See the Revised

RESTORATION ADVISORY BOARD (RAB) DIRECTORY

The Office of the Assistant Deputy Under Secretary of Defense for Environmental Cleanup is pleased to announce that the newly revised RAB Directory was posted on the web in early December. More than 300 military installations and formerly used defense sites throughout the United States and its territories have established RABs. The Department of Defense developed the RAB Directory to help facilitate communication among the RAB members. This Directory lists all active and inactive RABs and the point(s) of contact for each.

You can view the RAB Directory at the following web address:

http://www.dtic.mil/envirodod/rab/rabdir/index.html

FEATURES OF THE RAB DIRECTORY INCLUDE:

Direct E-mail links to co-chairs

Links to installation home pages that contain RAB information:
This section provides RAB meeting minutes, application forms, and member information from a number of installations.

A search option for the Directory of RABs:
This option allows the user to quickly search the RAB site and all its documents or to search only the RAB Directory.

SECTION III

PRECISION FIRE

5-9. TYPES OF PRECISION MISSIONS

Precision fire procedures place a great deal of responsibility on the observer. The two types of precision missions are precision registration and destruction. In precision fire, the adjusting point must be accurately located. An eight-digit grid should be sent for precision missions unless the observer is equipped with a laser range finder, which ensures accurate target location.

NOTE: Precision missions, by their nature, require a high ammunition expenditure and make the firing unit vulnerable to enemy target acquisition.

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5-10. PRECISION REGISTRATION MISSION

A registration is conducted with a single piece. Normally, the FDO directs the observer to conduct the registration on a designated point; however, the observer may be directed to select the registration point. The registration point should be accurately located (within 10 meters), near the center of the zone of fire, semipermanent, located on fairly level terrain if possible, and on common survey with the firing unit.

a. Initiation. The precision registration is initiated with a message to observer as shown in the examples on this page.

b. Impact Registration. The objective of a registration is to get spottings of four rounds (two overs and two shorts) along the OT line from rounds fired with the same data or from rounds fired with data 25 meters apart (50 meters apart when PER is greater than or equal to 25 meters). Normally, this requires the spottings from four separate rounds. However, a target hit or a round spotted as range correct provides spottings of both over and short. Thus, the objective could be achieved with two consecutive target hits or range correct spottings. Applicable rules and procedures are discussed below.

(1) The observer spots the rounds for deviation to the nearest 1 mil and brings the rounds onto the OT line before splitting a 200-meter bracket. As a rule of thumb, no deviation corrections should be made after a 200-meter bracket has been established. Once the observer brings the rounds onto the OT line, he measures and records deviation but makes no correction. If a doubtful range spotting is obtained, the observer corrects for deviation only. If a deviation correction is made after a 200-meter bracket is established, the last round fired and all previous rounds cannot be considered as usable rounds for determining range and deviation refinement data.

(2) When the 50-meter range bracket has been established, two rounds are fired with data 25 meters in the direction opposite that of the last range spotting. If both rounds result in spottings of short (or over), an add (or a drop) of 25 meters with a change in volume to one round is sent. Then firing is continued until another definite range spotting is obtained at the opposite end of the 25-meter range bracket.

(3) When the requirement of two overs and two shorts with the same data or data fired 25 meters apart has been met, the impact registration is ended with necessary refinement data. Refinement data may include either a deviation correction or a range correction, or both, to the nearest 10 meters.

(4) In determining refinement data for range, the location of the registration point is determined with respect to the two sets of spottings. Then refinement data are determined and announced. The criteria for determining range refinement data are discussed below.

(a) If the registration point is nearer the last round(s) fired, no range refinement is necessary to move the impact toward the registration point (Figure 5-15).

(b) If the registration point is equidistant between the two sets of rounds, the observer determines the range refinement to be ADD 10 or DROP 10 from the last data fired (Figure 5-16).

(c) If the registration point is nearer the pair of rounds at the opposite end of the bracket, the observer determines the range refinement to be ADD 20 or DROP 20 (Figure 5-17).

Figure 5-15. NO RANGE REFINEMENT NECESSARY

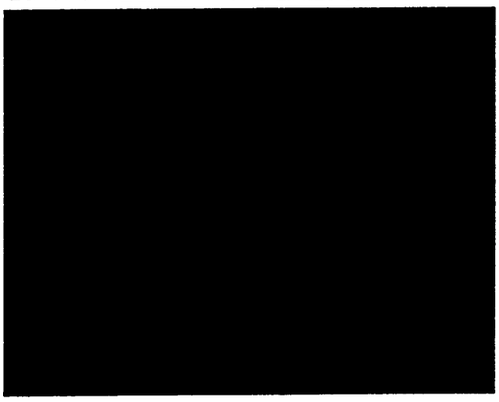

Figure 5-16. DROP 10

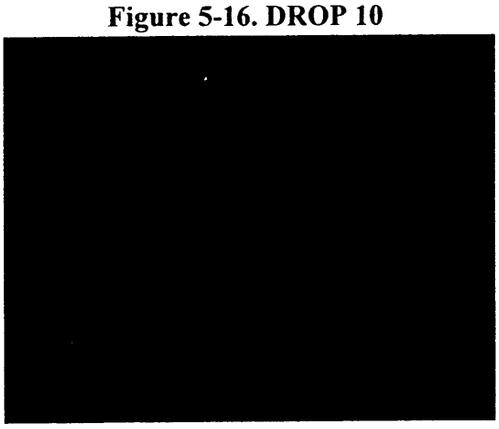

Figure 5-17. DROP 20